

## Net Ionic Equations- Precipitation and Neutralization Reactions

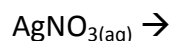
### Instructions for The Amazing Race:

The concept of the game is to have four questions (or more) with increasing difficulty and to check students' understanding by getting them to answer a question before moving on to the next one. In addition, students will work in groups in order to collaborate and facilitate the learning process.

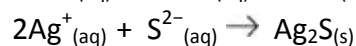
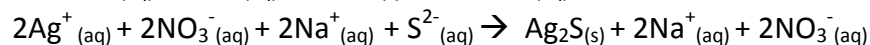
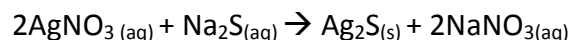
1. Students should be seated in groups of 4-5.
2. Hand out the slip with the first question, face down.
3. After each group receives the first question, the groups can start to work on it.
4. Upon completion, one of the group members needs to come up to the teacher and check if the answer their group came up with was correct.
5. If it is correct, the student will be given the second question, and they take it back to their team and work on it. If it's incorrect the student must take it back to their group and continue working on it.
6. Steps 4 and 5 are repeated for questions 3 and 4. First team to complete all four questions will win a prize.

### Questions:

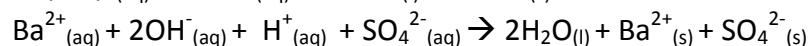
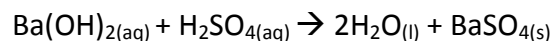
1. What ions are produced when the following compound dissociates? (Hint: include states and charges)



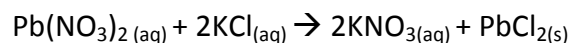
2. For the following precipitation reaction, identify the spectator ions:



3. Identify the two errors with the following neutralization reaction:

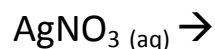


4. Write the net ionic equation for the following precipitation reaction:

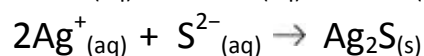
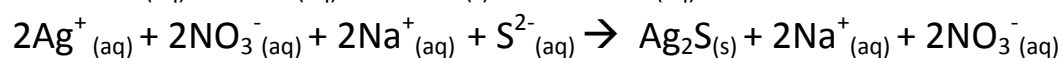
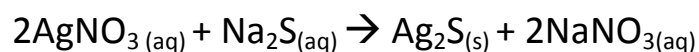


**Question Template**

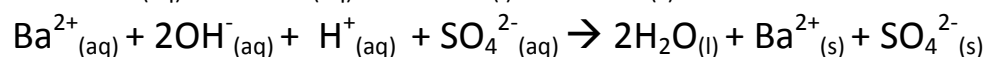
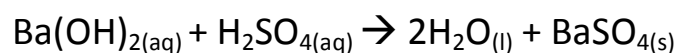
1. What ions are produced when the following compound dissociates? (Hint: Include the states and charges)



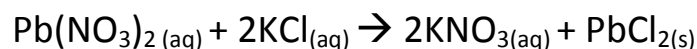
2. For the following precipitation reaction, identify the **spectator ion(s)**:



3. Identify the **two errors** with the following neutralization reaction:

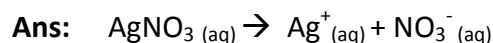
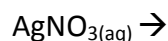


4. Write out the **balanced net ionic equation** for the following precipitation reaction (Hint: will not include the spectator ions):

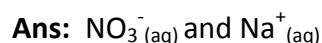
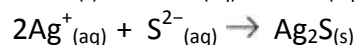
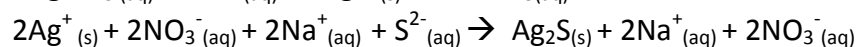
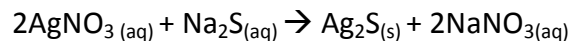


**Teacher Answer Key:**

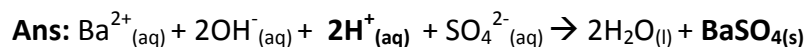
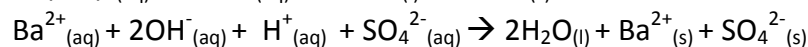
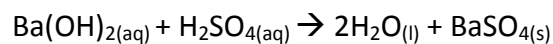
1. What ions are produced when the following compound dissociates?



2. For the following precipitation reaction, identify the spectator ion(s):



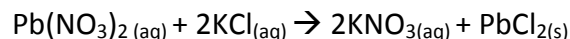
3. Identify the two errors with the following neutralization reaction:



Note:  $\text{BaSO}_4(\text{s})$  cannot dissociate into  $\text{Ba}^{2+}(\text{s})$  and  $\text{SO}_4^{2-}(\text{s})$

Remember all sulphates are soluble except  $\text{Ba}^{2+}$ ,  $\text{Pb}^{2+}$ ,  $\text{Ca}^{2+}$ , and  $\text{Sr}^{2+}$

4. Write out the balanced net ionic equation for the following precipitation reaction: (Hint: will not include the spectator ions)



**Ans:**

